Vol. XXXVI No. 4 October 2001

NEW JERSEY DEPARTMENT OF AGRICULTURE
FOREST PEST REPORTER

Division of Plant Industry PO Box 330 Trenton, NJ 08625-0330 609-292-5440
www.state.nj.us/agriculture/plant

Donald T. DiFrancesco, Acting Governor **Arthur R. Brown, Jr., Secretary**

BACTERIAL LEAF SCORCH
A GROWING THREAT TO URBAN SHADE TREES

Bacterial Leaf Scorch (**BLS**) is caused by the bacterium *Xylella fastidiosa*, which colonizes and physically "clogs" the tree's water conducting tissues. The bacterium can be transmitted to healthy trees by leafhoppers, spittlebugs, and possibly other xylem feeding insects. There is no effective treatment and infections in natural forest settings are rare. Trees infected by **BLS** include northern red oak, pin oak, scarlet oak, elm and sycamore, usually growing in urban settings such as along highways and around homes.

BLS infections, especially on ornamental red, pin and scarlet oaks, have been confirmed by serological testing in Mercer, Burlington, Camden, Salem and Gloucester Counties. Symptoms of **BLS**, which start to appear in mid-summer and continue into the fall, include leaves that begin to dry and brown along their margins, progressing slowly downward toward the midrib and petiole. Eventually, **BLS**-affected oak leaves show a distinct dull, pale green transition zone that looks water-soaked between the margin of dead leaf tissue and healthy tissue.

Typically, during the first and second year of **BLS** infection, only one or two main branches are affected and these branches are dead the following spring. Eventually, the infection spreads to other parts of the canopy. Smaller diameter trees may only live up to four years after the initial infection while larger diameter trees can live up to 10 years. The costs of annual pruning of hazardous dead branches can be quite high for towns with **BLS**-infected trees.

This summer, for the first time, NJDA staff began observing typical symptoms of **BLS** on red, willow and pin oak around state buildings in Trenton. **During mid-August these apparently healthy oaks began to show a sectional wilting of leaves in the canopy followed by premature leaf drop.** Significant numbers of

BLS-infected oaks have been observed and/or reported in Cranbury, Riverton, and Moorestown.

VARIABLE OAKLEAF CATERPILLAR OUTBREAK EXPANDS IN OCEAN COUNTY

Complaints by landowners and follow-up inspections by NJDA reveal that the variable oakleaf caterpillar, *Heterocampa manteo*, is causing greater damage over a larger area in 2001 than in 2000. Complete defoliation of oak was observed on several thousand acres Ocean, Barnegat, Stafford and Eagleswood Townships in Ocean County. The largest contiguous infestation of the pest was located in a triangle bordered by Route 554 on the north, the Garden State Parkway to the east, and Route 72 from the Parkway to Route 554. The larvae completed much of their leaf-feeding damage by mid-August and this season began infesting residential areas prompting numerous complaints. Homeowners were concerned about the increased fire danger caused by the defoliation and the possibility of tree loss.

Recommendations were made to landowners concerning treatment for this native pest in early to mid-July when the caterpillars are small and the leaves are not heavily eaten. There were signs in early September that the trees were re-foliating, but there is an increased probability that areas sustaining two years of defoliation may suffer some crown die-back and tree loss.

GYPSY MOTH POST-SPRAY EVALUATION SHOWS MOST SPRAY BLOCKS TREATED SUCCESSFULLY

Evaluations of the 41 spray blocks, totaling 8,496 acres, treated during the 2001 gypsy moth aerial suppression program showed that the program afforded acceptable foliage protection in 89 percent of the treated areas. However, defoliation levels greater than 60 percent occurred in eight of the spray blocks, primarily in Passaic County, despite the aerial spray application of *Bacillus thuringiensis*. This high degree of defoliation on about 1,100 acres was attributed to extremely large populations of gypsy moth caterpillars within the spray blocks and migration of caterpillars back into the treated area several weeks after the spray was applied. NJDA is exploring a number of options to improve the efficacy of the spray program next year.

NJDA, FOREST SERVICE DISCUSS NEW TECHNOLOGIES, WAYS TO INCREASE EFFECTIVENESS OF GYPSY MOTH SUPPRESSION PROGRAM

NJDA staff met with members of USDA's Forest Service (USDA/FS) and NJDEP's Bureau of Forestry to discuss ways to incorporate new technologies and other ways to increase the effectiveness of NJDA's gypsy moth suppression

program in 2002.
USDA/FS now requires all spray aircraft to be equipped with global positioning systems (GPS) that plot the flight of the spray aircraft, guide the pilot to the spray block, record the swath width and indicate when spray booms were turned on and off. With each GPS unit costing $15,000, not all spray contractors have this type of equipment installed in their aircraft. The requirement will limit the number of vendors bidding on New Jersey's spray contract and increase the per-acre cost of the spraying program. Therefore, it was agreed that New Jersey would gradually phase in the use of these guidance systems on smaller single-engine spray aircraft and require all larger twin-engine aircraft to have them for next spring's treatment program.

The group also discussed ways to increase the efficacy of *Bacillus thuringiensis*, (*B.t*.) formulations against the higher population densities of gypsy moth that have occurred in recent years. It was proposed to divide the state into two spray units to make sure the applications are timed better to get the smaller larvae and to use higher volume and dosage rates in the heavier gypsy moth populations. NJDA may also recommend an optional double application of *B.t.* in cases where egg masses are large (over 4,000 egg masses per acre). The department will also work more closely with the NJDEP Bureau of Forestry to develop multi-year spray contracts to stabilize spray application costs.

DEPARTMENT BEGANS MUNICIPAL GYPSY MOTH EGG MASS SURVEYS TO DELINEATE 2002 TREATMENT BLOCKS

Seventy-four municipalities and one county park system have requested gypsy moth egg mass surveys to help identify areas for treatment under next year's voluntary cooperative aerial spray program. Surveys have been completed on more than 3,500 sites in 10 municipalities in Atlantic, Cape May, Morris, Passaic Salem, Sussex and Warren Counties. So far, 10 blocks totaling 7,480 acres have been proposed for treatment in 2002 in Passaic and Cape May Counties with 65 surveys in 17 counties still pending. The remaining egg mass surveys should be completed by the end of December.

EXOTIC LONG-HORNED BEETLE WAREHOUSE SURVEY SHOWS NO INFESTATIONS

NJDA's Pest Survey Staff completed a trapping survey for exotic long-horned beetles (*Cerambycidae*) in conjunction with USDA/APHIS/PPQ since so many exotic long-horned beetles have been found in solid wood packing materials in a number of the nation's ports. New Jersey's eight-county survey was carried out from June through September at 11 warehouse areas that had received cargo from China and were at risk for possible entry of exotic wood-boring beetles.

Blacklight traps inside one warehouse in Bergen County yielded two adult beetles of a foreign species of the genus *Hesperophanes*. State and federal inspectors examined wood crating at the facility but no additional live beetles were found nor were any foreign species found in traps outside the warehouse. Trap catches at all other facilities contained only native species.

ASIAN LONG-HORNED BEETLE BIOMETRIC SURVEY TO BEGIN IN NOVEMBER

From November 2001 through January of 2002, NJDA will participate in the first phase of a multi-year 25-mile radius survey for Asian long-horned beetle (ALB). The survey is sponsored by USDA/APHIS/PPQ and, over the next three years, NJDA will examine 65,700 potential host trees for signs of ALB infestation in the northeastern counties of New Jersey that lie within 25 miles of known ALB infestations in New York City. The survey will cover street and forest trees in over 7,300 sites in 813 square miles in the northern part of the state. This effort will help to determine whether the pest has moved into New Jersey and is part of the USDA's eradication program for this exotic pest. USDA/APHIS/PPQ has approved the $58,000 budget for completion of the initial part of this survey in New Jersey.

For further information contact John D. Kegg, Chief, Bureau of Plant Pest and Disease Control, Division of Plant Industry, NJDA, PO Box 330, Trenton, NJ 08625 or email john.kegg@ag.state.nj.us